

**SEARCH & RESCUE**



# **USAR**

**RESPONSE EQUIPMENT**



## AN INTERNATIONAL PRESENCE

SUBSIDIARIES AND A STRONG NETWORK OF DISTRIBUTORS





# LEADER

Since 1985, LEADER **designs** and **manufactures** higher performing equipment used in **firefighting**, **fire training** and **Search & Rescue** applications and proposes them to Fire & Rescue Services, Civil Defense, Hazardous Industries, NGOs, Maritime Services, etc. on the 5 continents.

## A major axis : INNOVATION

To meet the evolving challenges of fire hazards and search & rescue missions, equipment must continually **evolve** and **adapt** to be **more effective** while ensuring **maximum safety for workers**.

To meet these challenges, LEADER is committed to constant **innovation and new technologies** and has its own in-house **Research & Development** team which works alongside end-users to design and develop the equipment that will be proposed tomorrow.

To test our equipment and assess its performance, we at LEADER continually invest in our own infrastructure:

- ▶ Water and High-Expansion Foam test room (400 sq m)
- ▶ Ventilation test room (400 sq m)
- ▶ Casualty Search Equipment test area
- ▶ Fire test area in fire container & Fire extinguishing equipment

### Our commitment

When you choose LEADER equipment, you are assured of the **quality and compliance of our products**. These have been made in our workshops by our engineering and electronics **specialists**.

### ISO 9001 certified since 1999, LEADER:

- ▶ Carries out **checks** at every stage of the manufacturing process as well as on the finished products before dispatch,
- ▶ Provides **continuous training** for all its staff.

### Guaranteed equipment

Every LEADER product comes with a specific contractual guarantee.

### Close to our customers

Through our sales force, subsidiaries in **Germany and the USA, agencies in Latin America and China and an international distribution network**, LEADER is present worldwide, keeping us as close as possible to our customers.

### An organisation at your service

For optimal and long-term use of the equipment you purchase, LEADER can propose suitable training **on the handling, on the use and maintenance of the equipment**. Training can be done at our site or on site.



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# USAR PROTECTION AND RESPONSE EQUIPMENT

LEADER's innovative equipment exceeds the technical limits hitherto established by using new technologies to improve the field effectiveness of USAR rescue teams so that more people buried under rubble can be saved.



## CASUALTY SEARCH

**P10**

### LIFE DETECTORS

FOR DETECTING VIBRATIONS OR MOVEMENTS FROM BURIED CASUALTIES AND LOCATING THE VICTIM.

### SEARCH CAMERAS

FOR VISUALLY LOCATING AND COMMUNICATING WITH A CASUALTY IN A CONFINED SPACE.

### 2 IN 1 CAMERA/DETECTOR

ONE APPARATUS SUFFICIENT FOR VISUALLY LOCATING AND DETECTING THE POSITION OF CASUALTIES.



## SECURING AN AREA

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### SURROUNDING STRUCTURE STABILITY MONITOR

FOR ALERTING RESCUERS TO A RISK OF COLLAPSE.

### CURRENT DETECTOR

FOR WARNING OF THE PRESENCE OF ELECTRIC POWER IN AN INTERVENTION AREA.



## PERSONAL PROTECTION

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### MULTI-RISK RESCUER HELMETS

FOR PROTECTING RESCUERS IN HAZARDOUS SITUATIONS.



## TECHNICAL DATA

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## USAR EQUIPMENT DESIGNED WITH AND FOR RESCUE SPECIALISTS

**Dedicated to USAR (Urban Search and Rescue) work**, the purpose of these innovative devices is to **effectively help rescue teams save casualties** from natural disasters or major accidents such as collapse of structures, landslides, explosions, fires, etc.

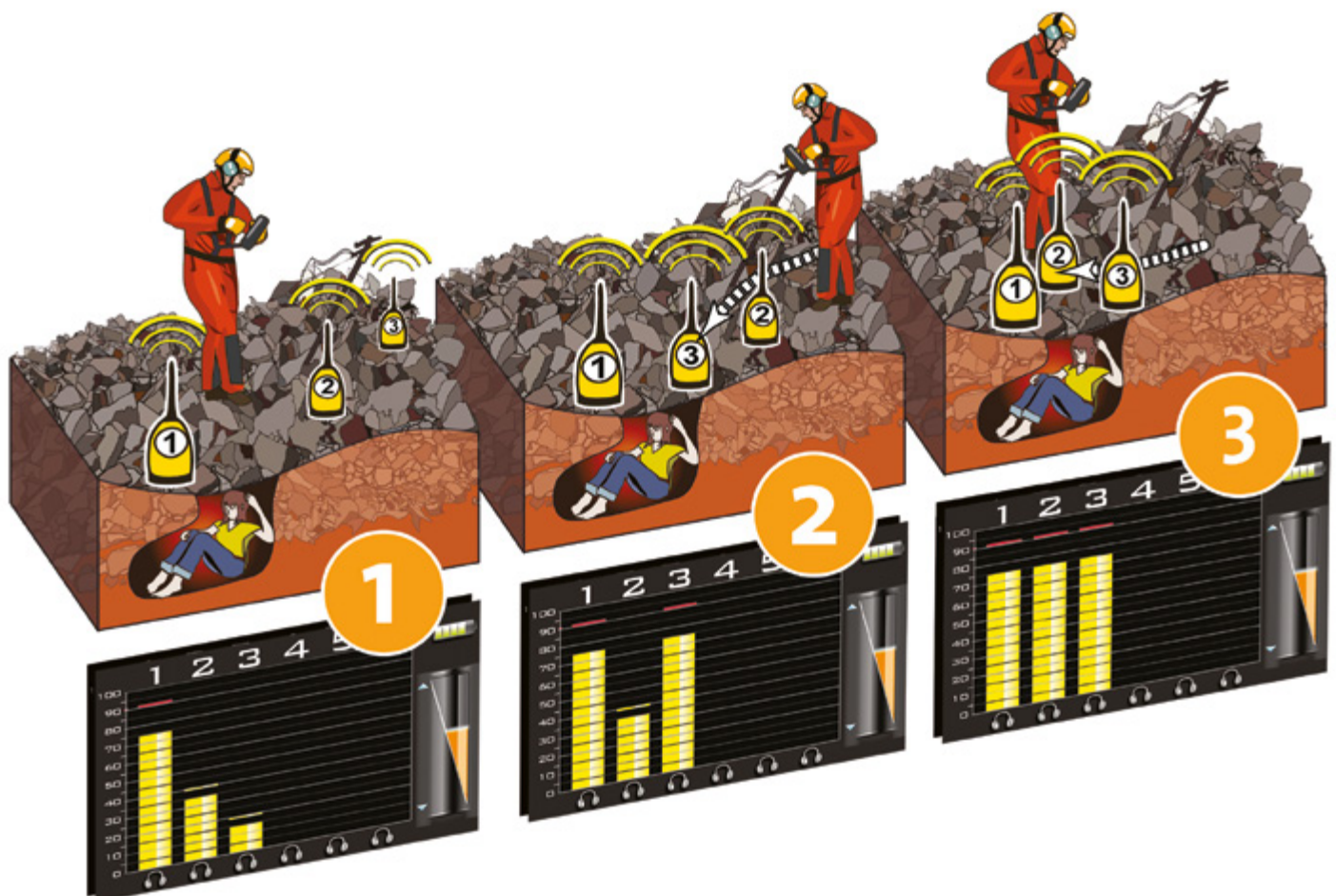
Every rescue situation is different and demands **equipment** both to **help casualties** and secure a rescue area or **protect individual rescuers**.

# SEISMIC SENSOR

## DETECTING VIBRATIONS FROM BURIED CASUALTIES

LEADER Search equipment emphasises wireless seismic technology to allow rapid deployment of up to 3 sensors for ease of use in rubble (no cable to get in the way). Wired sensors can also be connected in order to supplement the action of wireless sensors in certain conditions.

Seismic sensors are used to detect the slightest vibration and locate casualties by triangulation. By systematically moving the sensors across a virtual grid representing the disaster zone, and always leaving in position the sensor that picked up the strongest signal, the casualty's location is identified when all the sensors receive a signal of equal strength.



# UWB SENSOR

## DETECTS MOVEMENTS OF BURIED CASUALTIES

Its high sensitivity allows it to detect either irregular movements such as the movement of a finger, or regular movements such as the chest movements of a casualty who is breathing even if unconscious.

LEADER Scan uses wireless UWB (Ultra Wide Band) technology to allow workers to move more easily even though a wired connection is possible. An operator moves the sensor across the surface of the rubble. The aim is to map the disaster area by identifying the locations of buried casualties, while a second operator monitors progress on the control box.

UWB technology detects movements in the vertical search axis of the sensor. The shape of the signal can be simply represented by a cone which accurately detects the movements of a person, or movements characteristic of breathing.



# SEARCH CAMERAS

## VISUAL LOCATION AND COMMUNICATION WITH A CASUALTY

LEADER Cam search cameras are normally used in their extensible telescopic pole version. They allow operators to inspect inaccessible high areas or confined spaces that are difficult to access.

**Reel versions with cable** are also available for inspecting **cavities**, **crevices** and **wells** to great depths.



# STABILITY MONITOR

## MONITORS UNSTABLE STRUCTURES FOR MOVEMENT

Laser is pointed at a potentially hazardous structure and continuously monitors it for the slightest movement. The LEADER Sentry thus secures one to two areas simultaneously. If the movement of the structure exceeds the threshold set by the operator, a powerful alarm is triggered to alert operators to an imminent danger of collapse, thus allowing evacuation of people working in the danger zone.

The apparatus can be used to monitor the movements of any object or mass likely to put people in danger, such as beams all walls made unsafe by fire, mudflows, avalanches, vehicles in unstable equilibrium, etc.



# CURRENT DETECTOR

## DETECTING ELECTRIC CURRENT IN A RESPONSE AREA

LEADER Volt alerts operators of the presence of alternating current without even having contact with the power source.

Can be used in many ways:

- For urban search and rescue following natural disasters to detect unprotected electricity sources,
- In a fire before using water and afterwards during clearance inspections,
- Or before entering a structure containing machinery that could be started up accidentally,
- Etc.



# MULTI-RISK HELMETS

## RESCUER PROTECTION

The 11 approvals gained for the LEADER Sar multi-risk helmet and its numerous accessories prove it is a true multi-purpose item with a very wide range of uses, including:

- Search & Rescue / Confined Spaces / NRBC Environments
- Marine / White water / Rescue at sea / Inflatable boats / Hovercraft
- Work at height
- Forest firefighting
- Ambulance / Medical emergencies / Road accident assistance
- Quads / Snowmobiles / Horse Riding

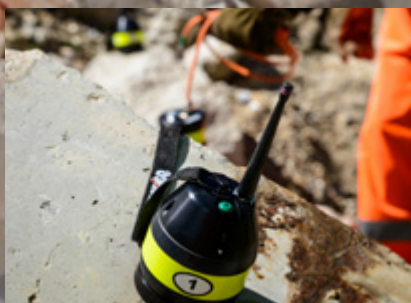






# Wireless and/or wired life detectors

LEADER has developed life detectors using two technologies to detect buried casualties :



## A SEISMIC DETECTOR LEADER Search

in which the technology detects the slightest **vibration produced** by the casualty by using the collapsed structure as a sort of giant microphone.

With **3 wireless sensors** for use at up to approximately 30 m in the field and **a range of 100 m** in open field, it also offers exceptionally good audio quality and good sound transmission for effective detection.

**Designed to be rapidly deployed** and easily used (no cable).

Three wired sensors can also be connected in addition to the wireless sensors.



## A UWB SENSOR LEADER Scan

uses highly sensitive stabilised Ultra-Wide Band technology for detecting either **irregular movements** such as the **movement of a finger**, or **regular movements** such as the **chest movements** of a casualty who is breathing even if unconscious.

It sends a signal to pick up movements in the vertical search axis of the sensor. The shape of the signal can be simply represented as a cone that **detects movements at a depth of few meters through more than 200 mm thick concrete wall and allows a 30 m search in free space.**



# LEADER Search

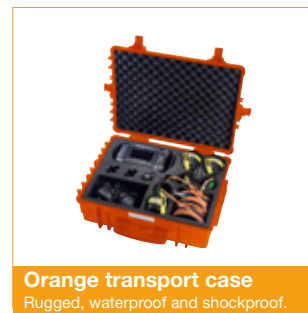
**Wireless equipment: Unique worldwide!**  
**Detection technology : Seismic**

## WIRELESS AND/OR WIRED SEISMIC SENSOR

### + KEY POINTS

- ▶ WIRELESS technology for fast set up and ease of movement: no more cables getting caught in the debris!
- ▶ 1 to 6 connectable seismic sensors
- ▶ Up to 3 wireless sensors, each with a range of 100 m
- ▶ Up to 3 wired sensors, each with 8 m of cable
- ▶ Compact and lightweight
- ▶ Ergonomic control box
- ▶ Intuitive navigation interface and menu

### INCLUDED ACCESSORIES :



# THE ADVANTAGES THAT MAKE THE DIFFERENCE

## AN ERGONOMIC CONTROL BOX :

- ▶ Lightweight
- ▶ Compact
- ▶ Extra-wide colour screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Menu and intuitive navigation.
- ▶ Autonomy : 5 hours
- ▶ Easily replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Hasty, LEADER Cam and LEADER Scan control boxes.
- ▶ Backup pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

## A MULTIFUNCTION DEVICE :



	FUNCTION*	IN SEISMIC SEARCH MODE
	Audio headphones volume adjustment*	Yes
	Microphone volume adjustment*	Yes
	Push to Talk*	Yes
	Screen brightness adjustment*	Yes
	Left- and right-handed use*	Yes
	Noise reduction filter adjustment* (low and high)	Yes
	Listen to each seismic sensor individually*	Yes
	Mono or Stereo listening mode* (selected sensors heard in 1 or both ears)	Yes
	Display trackers* to identify the strongest movement peak	Yes
	Wireless sensors' charge indicated	Yes
	Battery charge indication	Yes

\*Usable simultaneously



## HIGH SENSITIVITY LISTENING MODE :

### WIRED AND/OR WIRELESS SEISMIC SENSORS :

- ▶ 1 to 6 seismic sensors can be connected to detect sounds from casualties such as scratching, knocking, cries, etc.
  - Up to 3 wireless sensors with a range of about 30 m in the field (no cable management because equipment is wireless)
    - Range in excess of 100 m in open field
    - Sensor battery life: approx. 8 hrs
  - Up to 3 wired sensors, each with 8 m cable
- ▶ Adjustable noise reduction filters to eliminate unwanted low/high noises from pneumatic drills, vehicles, the wind, electric power cables, etc.
- ▶ Mono or Stereo mode for listening to the selected sensors in one or both ears

### WATERPROOF COMMUNICATION PROBE :

- ▶ Included in the complete version (3 wired + 3 wireless sensors) (optional in other versions).
- ▶ Waterproof to IP67
- ▶ With 8 meter cable
- ▶ Push to Talk function using the probe's microphone and speaker to communicate with buried survivors

## HIGH-PERFORMANCE NOISE-REDUCING AUDIO HEADPHONES :

- ▶ Noise-reducing design to provide great listening quality without disruptions.
- ▶ Microphone with integrated noise reducer for clear communication with casualties
- ▶ 1 or 2 sets of headphones can be connected simultaneously for :
  - either listening to the sensors in seismic listening mode
  - or communicating with casualties through the communication probe.

TECHNICAL DATA  
PAGES 38 & 39



# LEADER Scan

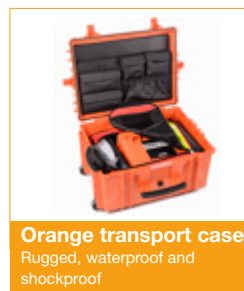
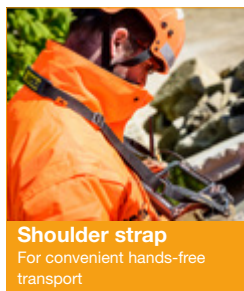
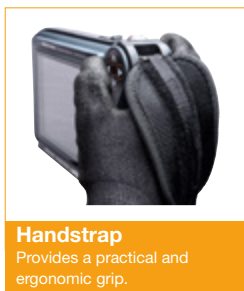
**Detects the slightest respiratory movement of a conscious or unconscious buried victim under rubble!**  
**Detection technology : UWB (Ultra Wide Band)**

## ULTRA-SENSITIVE UWB MOVEMENT SENSOR

### + KEY POINTS

- ▶ Compact and lightweight
- ▶ Detects movement from up to 30 m away in open field
- ▶ Detects breathing from up to 10 m away
- ▶ Real-time movement detection
- ▶ Wireless or wired connection
- ▶ Intuitive navigation interface
- ▶ Ability to save data during search
- ▶ Battery indicator visible outside of sensor
- ▶ Easily interchangeable battery

### INCLUDED ACCESSORIES :



# THE ADVANTAGES THAT MAKE THE DIFFERENCE

## AN ERGONOMIC CONTROL BOX :

- ▶ Compact and lightweight
- ▶ Extra-wide colour screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Menu and intuitive navigation
- ▶ Autonomy : 2.5 hours
- ▶ Quickly replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Search, LEADER Cam and LEADER Hasty control boxes.
- ▶ Back up pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

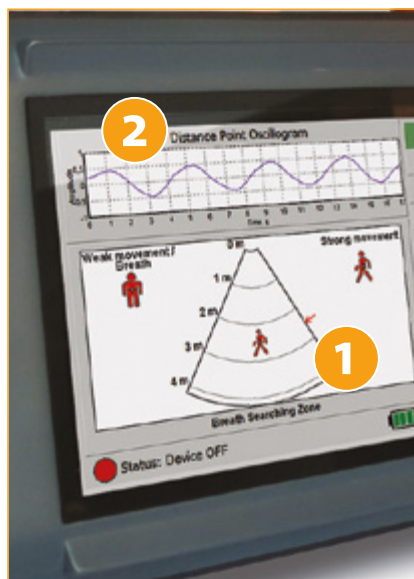
## HIGH-SENSITIVITY UWB SENSOR :

- ▶ High-sensitivity sensor using **UWB (Ultra-Wide Band) technology**
- ▶ Lightweight and compact
- ▶ Placed in a small waterproof and shockproof transport case
- ▶ Search distance : Up to 30 m in open field
- ▶ Accuracy : approx. 1 m
- ▶ Real-time movement detection
- ▶ 2 search modes : Manual and Automatic
- ▶ 2 batteries (each lasting 4 hours) supplied
- ▶ 2 types of connection to the control box :
  - Wi-Fi with 30m range (no cable management problems)
  - Waterproof wired USB (5 m of cable) : Alternative in case of nearby interference preventing use of Wi-Fi

## A MULTIFUNCTION DEVICE :

The control box screen indicates the depth at which the casualty is located and gives visual indications on his or her movements :

- ▶ Displays small or large movements (respiratory movements or movements of a finger, for example)
- ▶ Displays frequency of movement (suggesting whether human life or not)



FUNCTION	IN UWB SEARCH MODE
<b>GENERAL FUNCTIONS</b>	
Screen brightness adjustment	Yes
Left- and right-handed use	Yes
Indication of charge of control box battery	Yes
Choice of connection to the control box (USB or Wi-Fi)	Yes
Indication of status of connection of control box to sensor (starting, ready to be connected, connected, not connected, error)	Yes
Data recorded (useful for examining search history, re-examining data or during training)	Yes
<b>2 SEARCH MODES :</b>	
AUTOMATIC search mode for rapid deployment. The apparatus automatically analyses several predefined areas (0-4 m, 4-8 m, 8-12 m)	Yes
MANUAL search mode defined by user with selection of search area (Choice of minimum and maximum depth of search area)	Yes
<b>FUNCTIONS AVAILABLE IN SEARCH MODE</b>	
Set minimum search depth (start)	Yes
Set maximum search depth (end)	Yes
Large or small movement indicator	Yes
<b>OSCILLOGRAM FUNCTION</b>	
An arrow is placed at the depth where movement is detected. This enables the operator to : <ul style="list-style-type: none"> <li>▶ Confirm the presence of movements in the selected search area. <b>1</b> (If it detects several movements it will concentrate on the strongest movement)</li> <li>▶ Display the frequency of the detected movement. <b>2</b></li> </ul>	Yes

TECHNICAL DATA  
PAGES 40 & 41





# Search cameras with communication system

**LEADER Cam** cameras are used during rescue operations to see and communicate with **buried survivors**. The **compact and lightweight** control box mounted on an **ultralightweight carbon-fibre telescopic pole** is specially designed for **precise visual location of casualties** in confined spaces.



## THE EXTENSIBLE TELESCOPIC POLE

allows operator to inspect **inaccessible** high areas or confined spaces that are difficult to access. The version connected to a reel allows inspection of cavities, crevices, wells, etc.

## SEARCH CAMERAS

also enable communication with the casualty when found in order to assess what help is required.



# LEADER Cam

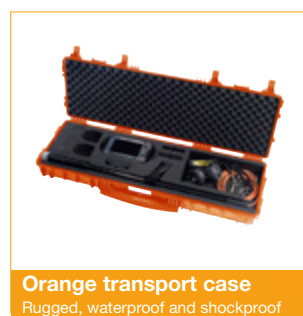
Compact, lightweight and ergonomic

## SEARCH CAMERA WITH BUILT-IN COMMUNICATION SYSTEM

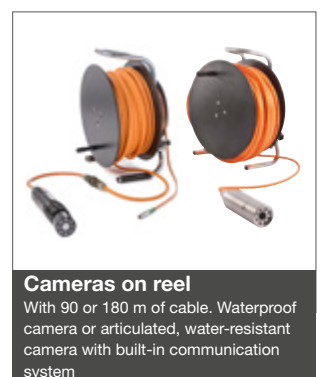
### + KEY POINTS

- ▶ Position of camera shown on screen
- ▶ Compact and lightweight
- ▶ Ergonomic control box
- ▶ Intuitive navigation interface and menu
- ▶ Extra-wide colour screen
- ▶ Ultralightweight telescopic pole

### INCLUDED ACCESSORIES :



### OPTIONAL ACCESSORY :



# THE ADVANTAGES THAT MAKE THE DIFFERENCE

## AN ERGONOMIC CONTROL BOX :

- ▶ Lightweight and compact
- ▶ Extra-wide colour screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Menu and intuitive navigation
- ▶ Autonomy : 2.5 hours
- ▶ Easily replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Search, LEADER Hasty and LEADER Scan control boxes.
- ▶ Backup pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

## A MULTIFUNCTION DEVICE :



FUNCTIONS		IN SEARCH CAMERA MODE
	Digital zoom x 2*	Yes
	Headphone(s) volume adjustment*	Yes
	Microphone volume adjustment*	Yes
	Push to Talk*	Yes
	Screen brightness adjustment*	Yes
	Left- and right-handed use*	Yes
	Image rotation* up (0°), down (180°)	Yes
	Display of camera head position*	Yes
	Display of illumination level of LEDs located on camera head*	Yes
	Battery charge indication	Yes
	Pictures capture*	Yes
	Video recording* (without sound)	Yes
	Photo and video gallery to display recordings	Yes
	Audio recording (recording of sounds from the communication pole: communication between casualty and rescuer)	Yes

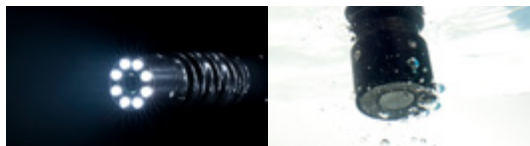
\*Usable simultaneously



## SEARCH CAMERA MODE :

### ROBUST AND WATERPROOF CAMERA HEAD :

- ▶ 170° movement of camera head and 260° total field of view
- ▶ Camera protected by scratch-resistant sapphire lens
- ▶ Flexible camera joint head to absorb shocks
- ▶ Water-resistant to 2 m when camera fitted with plug
- ▶ Adjustable LED lighting with 8 intensity levels



### ULTRALIGHTWEIGHT TELESCOPIC POLE :

- ▶ Telescopic from 1.1 to 2.4 m – Up to 4 m available
- ▶ Ultralightweight carbon-fibre construction
- ▶ "Articulated arm" supplied for mounting the control box on the pole

## HIGH-PERFORMANCE NOISE-REDUCING AUDIO HEADPHONES :

- ▶ Noise-reducing design to provide great listening quality without disruptions.
- ▶ Microphone with integrated noise reducer for clear communication with casualties
- ▶ 1 or 2 sets of headphones can be connected simultaneously

TECHNICAL DATA  
PAGES 42 & 43



**SAR**

Search & Rescue



# 2-in-1 Camera/Detector

**LEADER Hasty**, the **WORLD'S only** multi-functional HASTY tool.\* It combines several modes :



## A "SEARCH CAMERA" MODE

via a camera integrated into an ultralightweight telescopic pole for visually precisely locating casualties,

## A "SEISMIC DETECTION" MODE

allied with 3 wireless sensors for detecting signs of life.

The combination of these modes allows the operator to **detect**, **locate** and **communicate** using a single tool, making deployment times shorter and increasing the survival chances of casualties.





# LEADER Hasty

The only search device that combines casualties detection with a search camera!  
Detection technology : Seismic

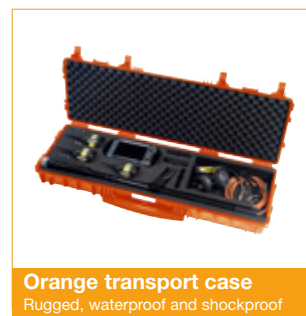
## WIRELESS SEISMIC DETECTOR & SEARCH CAMERA

### KEY POINTS

- ▶ 2-in-1 search device
- ▶ Fast deployment
- ▶ Compact and lightweight
- ▶ Ergonomic control box
- ▶ Intuitive navigation interface and menu
- ▶ Extra-wide colour screen
- ▶ Ultralightweight telescopic pole
- ▶ Up to 3 wireless seismic sensors, each with a range of 100 m
- ▶ Position of camera shown on screen



### INCLUDED ACCESSORIES :






















# THE ADVANTAGES THAT MAKE THE DIFFERENCE

## AN ERGONOMIC CONTROL BOX :

- ▶ Compact and lightweight
- ▶ Extra-wide colour screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Intuitive navigation interface and menu
- ▶ Autonomy : 2.5 hours
- ▶ Easily replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Search, LEADER Cam and LEADER Scan control boxes.
- ▶ Backup pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

## A MULTIFUNCTION DEVICE :

	FUNCTIONS	IN SEARCH CAMERA MODE	IN SEISMIC SEARCH MODE
	Digital zoom x 2*	Yes	
	Headphone(s) volume adjustment*	Yes	Yes
	Microphone volume adjustment*	Yes	Yes
	Push to Talk*	Yes	
	Screen brightness adjustment*	Yes	Yes
	Left- and right-handed operation*	Yes	Yes
	Image rotation* up (0°), down (180°)	Yes	Yes
	Display of camera head position*	Yes	
	Display of illumination level of LEDs positioned on camera head*	Yes	
	Noise reduction filter adjustment (low and high)		Yes
	Mono or Stereo listening mode (selected sensors heard in one or both ears)		Yes
	Listen to each seismic sensor individually		Yes
	Display trackers to identify the strongest movement peak		Yes
	Wireless sensors' charge indicated		Yes
	Battery charge indication	Yes	Yes
	Pictures capture*	Yes	
	Video recording* (without sound)	Yes	
	Photo and video gallery to display recordings	Yes	
	Audio recording (recording of sounds from the communication pole: communication between casualty and rescuer)	Yes	

\*Usable simultaneously

## SEARCH CAMERA MODE :

### ROBUST WATERPROOF CAMERA HEAD :

- ▶ 170° movement of camera unit and 260° total field of view
- ▶ Camera protected by scratch-resistant sapphire lens
- ▶ Flexible articulation of camera unit to absorb shocks
- ▶ Water-resistant to 2 m when camera fitted with plug
- ▶ Adjustable LED lighting with 8 intensity levels

### ULTRALIGHTWEIGHT TELESCOPIC POLE :

- ▶ Telescopic from 1.1 to 2.4 m – Up to 4 m available
- ▶ Ultralightweight carbon-fibre construction
- ▶ "Articulated arm" supplied for mounting the control box on the pole



## HIGH SENSITIVITY LISTENING MODE :

### 1, 2 OR 3 WIRELESS SEISMIC SENSORS CAN BE CONNECTED TO DETECT SOUNDS FROM CASUALTIES

- ▶ Range of about 30 m in the field (no cable management because equipment is wireless)
- ▶ Range in excess of 100 m in open field
- ▶ Sensor battery life: approx. 8 hrs

**ADJUSTABLE NOISE REDUCTION FILTERS TO ELIMINATE UNWANTED LOW/HIGH NOISES FROM PNEUMATIC DRILLS, VEHICLES, THE WIND, ELECTRIC POWER CABLES, ETC.**

**MONO OR STEREO MODE FOR LISTENING TO THE SELECTED SENSORS IN ONE OR BOTH EARS**

## HIGH-PERFORMANCE NOISE-REDUCING HEADPHONES :

- ▶ Noise-reducing design to provide great listening quality without disruptions.
- ▶ Microphone with integrated noise reducer for clear communication with casualties
- ▶ 1 or 2 sets of headphones can be connected simultaneously

TECHNICAL DATA  
PAGES 44 & 45

# OPTIONAL ACCESSORIES FOR TECHNICAL SEARCH EQUIPMENT

FOR LEADER CAM / LEADER SEARCH /  
LEADER HASTY / LEADER SCAN CONTROL BOXES

## BATTERY ALONE (each)

Ref	D11.04.341
Type	Lithium ion. 37 Wh
Weight	300 g



## CHARGER + TRANSFORMER FOR CONTROL BOX

Charger dimensions	H 10.5 x D 4.5 x L 3.5 cm
Charger weight	200 g
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	UK, EU, AUS, USA



## SPARE BATTERY PACK

Ref	200 56 58
Weight with 10 batteries (not supplied)	300 g



## NOISE-REDUCING HEADPHONES

Ref 1 pair earphones only	200 63 82
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## OPTIONAL 2ND SET NOISE-REDUCING HEADPHONES

1 pair earphones supplied with Y connector for connecting 2 pairs earphones to control box simultaneously	D11.04.340
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## SUNSHADE

Ref	For Scan, Hasty and Cam: D11.04.339 For Search : D11.04.338
Material	Thermoformed foam with elastic straps for attaching to control box



## NECK STRAP

Ref	200 63 03
Material	Braided fabric supplied with fixing clasps
Length	120 cm




## HAND STRAP


Ref	200 61 97
Material	Braided fabric
Adjustment system	Velcro



## ACCESSORIES SPECIFICALLY FOR SEISMIC SENSOR

SENSOR (each)	
Wireless sensor (with 1 spike and 1 magnet)	D11.04.335
Wired sensor (with 1 spike and 1 magnet)	D11.04.336
	

SPIKES (each)	
Ref	200 31 13
Function	Allows sensor to be used on soft ground
Material	Steel
	

MAGNETS (each)	
Ref	200 35 14
Function	Allows sensor to be used on metal debris
Material	Steel
	

COMMUNICATION PROBE	
Ref	D11.04.337
Microphone/loudspeaker	Yes
Material	stainless steel
Diameter	38 mm
Ingress protection	IP67
Response frequency	300 Hz to 3500 Hz
Cable length	8 m
Cable type	Orange anti-abrasion cable
	

## ACCESSORIES SPECIFICALLY FOR SEARCH CAMERA

DISCONNECTABLE ARTICULATED ARM	
Ref	200 66 21
Function	Pole/control box mounting system
Material	Articulated rigid metal spring
Weight	250 g
	

WATER-RESISTANT PLUGS	
Ref	200 38 45
Function	Makes camera unit watertight to 2m
Material	Plastic + rubber seal
	

EXTENSIONS	
25 m cable	D11.04.356
90 m cable on reel	D11.04.348
Connectors	Metal
Cable type	Orange anti-abrasion cable
	

CAMERA ON REEL (each)	
Disconnectable articulated camera with built-in communication system with 90 m of cable on reel	D11.04.346
Reel of additional 90 m of cable	D11.04.348
	

WATER-RESISTANT CAMERA ON REEL (each)	
Water-resistant camera (non-articulating) to 90 m depth with 90 m of cable on reel	D11.04.347
Reel of additional 90 m of cable	D11.04.348
	





# Stability monitor for monitoring at-risk structures

**LEADER Sentry** is a movement detector that uses a laser to continuously monitor and detect the slightest movement of an unstable building or potentially unstable structure.



If the structure moves more than the threshold amount set by the operator, a **powerful alarm** is triggered to warn of the risk of **debris falling** from buildings damaged by **earthquake, bomb, gas explosion, fire or any other disaster**.

FOR FIREFIGHTING RESPONSE



FOR USAR RESPONSE



# LEADER Sentry

Monitors movements of unstable structures to alert firefighters or USAR teams to an imminent risk of collapse

## MOVEMENT SENSOR FOR MONITORING STABILITY

### + KEY POINTS

- ▶ Easy to transport
- ▶ 2 laser beams can operate simultaneously
- ▶ Displays movement status on the screen in real time
- ▶ Audio and visual alarm
- ▶ Units: metric (mm) and imperial (inches)
- ▶ Rain-resistant
- ▶ OLED screen: excellent brightness even in sunlight



# THE ADVANTAGES THAT MAKE THE DIFFERENCE

- ▶ Detects a 5-mm movement at a distance of 30 m.
- ▶ A telescopic sight allows operator to point the laser accurately at targeted unstable structure.
- ▶ Multiple maximum movement thresholds (from 5 to 100 mm) can be selected. When a movement is sensed that exceeds the selected threshold, the sound alarm is triggered.
- ▶ Continuously monitors detected movements and displays changes on its screen for real-time awareness.
- ▶ 2 lasers can be connected to the device to simultaneously monitor 2 sides of an unstable building for the safety of rescue teams working around or inside the structure.
- ▶ Various modes available for distinguishing between alarms, faults, etc.
- ▶ Filters out brief interruptions of beam (birds flying through beam, people briefly crossing beam etc.)

## CHARACTERISTICS

Model	Ref	Dimensions L x H x D	Weight	Autonomy	T°C of use	T°C of storage
<b>LEADER Sentry B1</b> Shockproof and waterproof case (when closed) containing console control monitor	D11.06.010	650 x 510 x 242 mm	approx. 15.5 kg	<ul style="list-style-type: none"> <li>• Continuous operation off 12 V cigar lighter supply or 110/220V 50/60 Hz mains.</li> <li>• For backup power: 14 hrs with 8 x AA lithium batteries (not supplied) 7 hrs with 8 x AA alkaline batteries (supplied)</li> </ul>	-25°C to +50°C	-40°C to +70°C
1 x class 2* laser with 4m of anti-scuff high-viz orange cable						
1 x robust tripod, height-adjustable to avoid interference with site activity (1.80m max) + 2 hooks for attaching ballast at its centre + 1 ball joint for mounting the laser on the tripod.						
8 x AA alkaline batteries + 1 x 110/220V 50/60 Hz mains power pack with adaptors + 1 x 12V cable with cigar lighter adaptor.						
<b>LEADER Sentry B2</b> Shockproof and waterproof case (when closed) containing console control monitor	D11.06.011	670 x 510 x 372 mm	approx. 26.5 kg	<ul style="list-style-type: none"> <li>• For backup power: 14 hrs with 8 x AA lithium batteries (not supplied) 7 hrs with 8 x AA alkaline batteries (supplied)</li> </ul>	-25°C to +50°C	-40°C to +70°C
1 x class 2* laser with 4m of anti-scuff high-viz orange cable						
1 x class 2* laser with 20m of anti-scuff high-viz orange cable						
2 x robust tripods, height-adjustable to avoid interference with site activity (1.80m max) + 2 hooks for attaching ballast at its centre + 2 ball joints for mounting the laser on the tripod.						
8 x AA alkaline batteries + 1 x 110/220V 50/60 Hz mains power pack with adaptors + 1 x 12V cable with cigar lighter adaptor.						

\*Output power is less than 1 mW. In case of exposure, the natural reflex to blink and turn the head away is sufficient to protect from risk of injury.

## OPTIONAL ACCESSORIES

Model	Ref	Use temperature	Storage temperature
1 laser with tripod for LEADER Sentry B1	D11.06.012	-25°C to +50°C	-40°C to +70°C
Sucker attachment Alternative to tripod for mounting laser on smooth surfaces (glass, vehicles etc.)	D11.06.014		





# LEADER Volt

Warns of presence of alternating current at a distance

## ELECTRIC CURRENT DETECTOR



### KEY POINTS

- ▶ Detects alternating current
- ▶ Safe and easy to use
- ▶ High sensitivity
- ▶ 3 sensitivity modes
- ▶ Water resistant



# THE ADVANTAGES THAT MAKE THE DIFFERENCE

## SECURING THE AREA

Audio and visual warning of the presence of alternating current (AC) without even having contact with the power source.

## 3 SENSITIVITY MODES :

- ▶ **High sensitivity** : For remote inspection
- ▶ **Low sensitivity** : Helps find the source of the current
- ▶ **Focus mode** : Precisely detects the current in the axial direction of the device and reduces the influence of other nearby cables



## MAIN APPLICATIONS :

- ▶ **Urban Search and Rescue** : Detects unknown sources of AC that are unprotected and dangerous.
- ▶ **Fire** : During and after fires, construction work and inspections.
- ▶ **Vehicle extractions** : Rapid check of intervention site and vehicles in order to identify any AC-related risk. Enables operator to check that electrical circuits are disconnected.
- ▶ **Rescue in Confined Spaces** : Allows operator to check that electrical power is off at the entrance of a site containing machinery or equipment that could be accidentally started up.
- ▶ **Natural disasters** : Rapid check of the extent of a power cut following an earthquake, storm, flood or snow storm. LEADER Volt enables operator to identify live wiring on roads or in spaces inside collapsed buildings or on flooded sites.
- ▶ **Trench rescue** : For locating potential sources of electrical hazards during rescue operations.

## MAIN CHARACTERISTICS

- ▶ Weight: 570 g
- ▶ Dimensions: Diameter: 45 mm / Length: 521 mm
- ▶ Duration: One set of alkaline batteries (4 x AA alkaline supplied) gives one year of service (if permanently on = 300 hours)
- ▶ Can be used for frequencies from 20 to 100 Hz
- ▶ Temperatures :
  - use: from -30 to +50°C
  - storage and transport: from -40 to +70°C
- ▶ Typical detection distance :

Voltage	Frequency	Settings	Detection distance adjustment		
			High sensitivity	Low sensitivity	Focus mode
120 VAC 220 VAC	60 Hz 50 Hz	Single conductor (1.80m above ground)	4.6m	0.9m	150mm
120 VAC 220 VAC		Conductor on wet ground	0.9m	150mm	25mm
7.2 kV 16 kV		Overhead distribution line (single insulator)	65m	21m	6m
46 kV	60 Hz	Overhead transmission line (several insulators)	>150m	>60m	>20m



## CAUTION

LEADER Volt detects only AC (Alternating Current) on damaged/stripped cables. Does not detect DC (Direct Current) such as underground railway train cables, tram cables, very high voltage cables and solar panels.





# Multi-risk helmet



Lightweight and comfortable, the LEADER Sar multi-risk helmet provides optimal protection in its basic configuration. It meets the requirements of responders in dangerous or hazardous situations during rescue missions.



Its great **shock-absorbing** capacity enables it to withstand **violent blows from above or from the front, sides or rear**, thus providing very effective head protection.



Its **11 type approvals** and its numerous accessories make the LEADER Sar multi-risk helmet a true **multi-function** item with a **very wide range of applications**.





# LEADER Sar

**This multi-risk helmet meets the requirements of responders in dangerous or hazardous situations during rescue missions.**

## MULTI-RISK HELMET

**11 TYPE APPROVALS MAKE THIS A TRUE MULTI-FUNCTION ITEM WITH A WIDE RANGE OF APPLICATIONS :**

- ▶ Search & Rescue / Confined Spaces / CBRN Environments
- ▶ Marine / Swiftwater / Water Rescue / Ribs / Hovercraft
- ▶ Working at height
- ▶ Forest firefighting
- ▶ Ambulance / Medical emergencies / Road accident assistance
- ▶ Quads / Snowmobiles / Horse Riding

### KEY POINTS

- ▶ Light and comfortable
- ▶ Gives optimal protection
- ▶ Meets the requirements of responders in dangerous situations during rescue missions
- ▶ Many accessories

# THE ADVANTAGES THAT MAKE THE DIFFERENCE

## TYPE APPROVALS & CONFORMITIES

### TYPE APPROVALS :

- ▶ EN14052 - 2005: High-performance safety helmet
- ▶ EN397: Flame resistance
- ▶ EN12492: Work at height / Mountaineering
- ▶ PAS 028 - 2002: Marine safety helmet
- ▶ FS/1: Quad bikes and ATVs
- ▶ EN1384: Protective horse-riding helmet
- ▶ EN166 - 2002: Eye protection in industrial environments
- ▶ EN352-3 - 1997: Hearing protection

### MEETS THE FOLLOWING STANDARDS \* :

- ▶ NFPA1951 - 2007: Protective Ensembles Technical Rescue Incidents (USAR)
- ▶ NFPA 1952:2010: Surface Water Operations Protective Clothing and Equipment 2010 Edition
- ▶ ANSI Z89.1 Type 2 Class C: American National Standard for Industrial Head Protection
- ▶ EN 16471 (in progress) : Wildland firefighting

\*European third party tests confirm the LEADER Sar All Risks helmet meets or exceeds the standards listed.

## CHARACTERISTICS

### THICKNESS & WEIGHT :

- ▶ Shell = 3 - 6 mm
- ▶ Inner cradle and liner = 18 - 22 mm
- ▶ Helmet = 550 g

### STRENGTH :

- ▶ Top part = 100 joules
- ▶ Sides/Front/Rear = 90 joules

## OPTIONAL ACCESSORIES


Options are supplied not fitted to the helmet. They are additional to the standard equipment (clear visor and photoluminescent vent covers).



**Integral transparent polycarbonate visor**

Ref H20.60.010


Requires visor mount **H20.60.012** and visor mount adaptor **H20.60.013** in order to be fitted.



**Protective mesh visor**

Ref H20.60.011

For forestry work. Requires visor mount H20.60.012 and visor mount adaptor H20.60.013 in order to be fitted.



**Side mount for attaching a torch**

Ref H20.60.027

Adaptable mount for attaching a torch (torch not supplied).



**Smoked visor**


Ref H20.60.015

Reduces brightness of sun while maintaining optimal colour vision.




**Visor mount**

Ref H20.60.012



**Neck protection**


Ref H20.60.017



**Integral transparent marine visor 175 mm**

Ref H20.60.008


Made of LEXAN polycarbonate, is designed to provide additional protection against risks on board fast boats. Meets requirements of standard EN166.



**Ambered visor**

Ref H20.60.016


Reduces the blue light from the sun's spectrum. The image is sharper, though some slight distortion of colours may occur.



**Helmet mount adaptor for visor mount**

Ref H20.60.013

If the helmet is fitted with ear defenders, this adaptor is not required because the visor mount can be secured directly to the ear defenders.



**Ear defenders**

Ref H20.60.018


26dB attenuation. The pair are supplied with an adaptor piece to accept the visor mount.



**Semi-integral transparent marine visor 130 mm**

Ref H20.60.009

Made of LEXAN polycarbonate, is designed to provide additional protection against risks on board fast boats. Meets requirements of standard EN166.



**Transparent visor**


Ref H20.60.031



**Protective goggles**

Ref H20.60.026

### AIR VENT COVERS (PER PAIR) :



**Photoluminescent**

Ref : H20.60.019



**Red**

Ref : H20.60.020



**Green**

Ref : H20.60.021



**Black**

Ref : H20.60.022



**Yellow**

Ref : H20.60.023



**Royal blue**

Ref : H20.60.024



# Technical data for search equipment

LEADER Search  
LEADER Scan  
LEADER Cam  
LEADER Hasty

## POSSIBLE COMBINATIONS DEPENDING ON SELECTED OPTIONS

										
	Ref	D11.04.335	D11.04.340	D11.04.346	D11.04.347	D11.04.362	D11.04.348	D11.04.356	2006158	2006557
LEADER Cam 2.4m	D11.04.342	0	1	1	1	1	0 (or 1 if used in combination with a D11.04.347)	1	0	1
LEADER Cam 4m	D11.04.343	0	1	1	1	1		1	1	0
LEADER Hasty 2.4m + 1 sensor	D11.04.349	2	1	1	1	1		1	0	1
LEADER Hasty 4m + 1 sensor	D11.04.350	2	1	1	1	1		1	1	0
LEADER Hasty 2.4m + 2 sensors	D11.04.351	1	1	1	1	1		1	0	1
LEADER Hasty 4 m + 2 sensors	D11.04.352	1	1	1	1	1		1	1	0
LEADER Hasty 2.4m + 3 sensors	D11.04.359	0	1	1	1	1		1	0	1
LEADER Hasty 4m + 3 sensors	D11.04.360	0	1	1	1	1		1	1	0
LEADER Cam R90 including 90m reel and disconnectable articulated camera	D11.04.344	0	1	0	1	1	1	0	1 (in place of reel but not at the end)	1 (in place of reel but not at the end)
LEADER Cam RD90 including 90m reel and camera water-resistant to 90m	D11.04.345	0	2	1	0	1	1	0	1 (in place of reel but not at the end)	1 (in place of reel but not at the end)



# TECHNICAL DATA LEADER Search

**WIRELESS AND/OR  
WIRED SEISMIC  
DETECTOR**

## AVAILABLE VERSIONS

Contents of case	1 control box + 2 wired sensors	1 control box + 3 wired sensors	1 control box + 2 wireless sensors	1 control box + 3 wireless sensors	1 control box + 3 wired sensors + 3 wireless sensors
Ref	D11.04.330	D11.04.331	D11.04.332	D11.04.333	D11.04.334
Control box	1	1	1	1	1
Antenna	-	-	1	1	1
Pair of noise-reducing earphones	1	1	1	1	1
Sunshade	1	1	1	1	1
Shoulder strap	1	1	1	1	1
Hand strap	1	1	1	1	1
Wired seismic sensors	2	3	-	-	3
Wireless seismic sensors	-	-	2	3	3
Communication probe	option	option	option	option	1
Spikes for sensors	2	3	2	3	6
Magnets for sensors	2	3	2	3	6
Battery	1	1	1	1	1
Charger	1	1	1	1	1
International connection adaptor kits	1	1	1	1	1
Spare battery pack (without batteries)	1	1	1	1	1
Orange transport case	1	1	1	1	1
User manual	1	1	1	1	1

## CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 24 x W 15.2 x H 5.1 cm
Control box weight without battery	950 g
Control box weight with battery	1.225 kg
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 2 m.
Control box water and dust resistance	IP54
Autonomy	5 hours
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	3 metal ports for connecting headphones, antenna, communication probe or wired sensors
Antenna for interconnection of seismic sensors	Removable and orientable for a range of up to 100 m in unobstructed space
Connector water and dust resistance	IP68
Operating temperatures	From -10° to +60°C
Storage temperature	From -40° to +70°C

SCREEN	
Type	TFT LCD
Resolution	5" - 800 x 480 px WVGA
Brightness	1000 candela /m2
Backlighting	LED
Colours	16-bit RGB
Protection	Transparent thermoplastic: 3 mm colourless scratch-resistant PMMA

# SEISMIC SEARCH EQUIPMENT CHARACTERISTICS

	SEISMIC SENSORS	
	Wireless connection to control unit	Wired connection to control unit
Dimensions with antenna	Height 212 mm x Diameter 90 mm	Height 85 mm x Diameter 90 mm
Weight (with standard cell batteries)	840 g	1400 g
Specificity	Up to 3 sensors with 100 m range each in unobstructed space	Up to 3 sensors, each with 8 m of anti-abrasion high-viz orange cable
Sensor/control box communication frequency	2.4 GHz	-
Water and dust resistance	IP67	
Shock resistance	Yes	
Audio response frequency	1 Hz to 3000 Hz	
Autonomy	Approximately 8 hrs depending on battery make	-
Individual control of each sensor from control box	Each sensor can be listened to alone or simultaneously with the second sensor.	
Noise-reducing filters adjustable from control box	Low-pass filter: Removes high sounds. Adjustable from 600 to 3000 Hz High-pass filter: Removes deep sounds. Adjustable from 20 to 300 Hz	
Mono or Stereo listening mode	For listening to the selected sensors in both ears, right ear only or left ear only	
On-screen display trackers	Yellow trackers above each bar graph for clear reading of peaks. Red tracker identifies the highest seismic peak, staying on screen for an additional brief period.	

COMMUNICATION PROBE	
Option. Except in the 3 wired sensors + 3 wireless sensors version Ref D11.04.334	
Ref	D11.04.337
Material	stainless steel
Diameter	38 mm
Ingress protection	IP67
Microphone/loudspeaker	Yes
Response frequency	300 Hz to 3500 Hz
Cable length	8 m
Cable type	Orange anti-abrasion cable

NOISE-REDUCING HEADPHONES	
Weight	Approx. 430 g
Mono or Stereo	Stereo
Built-in microphone	Yes, to communicate with casualties in search camera mode
NRR (Noise Reduction Rating) hearing protection	23 dB
Number of simultaneously connectable pairs of earphones	2 pairs simultaneously connectable, one being optional (supplied with a Y connector for connecting 2 pairs of earphones to the same control box)

## POWER SUPPLY

CHARGER + TRANSFORMER	
Charger dimensions	H 10.5 x W 4.5 x L 3.5 cm
Charger weight	200 g
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

CONTROL BOX BATTERY	
Dimensions	L 6.5 x W 13 x H 3 cm
Weight	280 g
Type	4 Lithium Ion Polymer cells. 37 Wh
Capacity	2500 mA/hour
Autonomy	5 hours
Charging time	3 hours 30 min
Recharging cycles	500
Charging temperature	0° to +45°C
Water and dust resistance	IP67
Battery compatible and interchangeable	Yes with LEADER Hasty and LEADER Cam and LEADER Scan
Charge level indication	Continuously displayed on control box screen

SPARE BATTERY PACK	
Dimensions	L 6.5 x W 13 x H 3 cm
Weight with 10 batteries (not supplied)	300 g
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Autonomy	Approx. 1 h 30 m depending on battery make

WIRELESS SENSORS POWER SUPPLY	
Type and number of batteries required	3 x AAA - LR03 alkaline batteries
Autonomy	Approx. 8 hrs depending of the standard cell batteries brand

## TRANSPORT CASE

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalising valve
Dimensions	L 65 x W 51 x H 24.2 cm
Empty weight	7.2 kg
Loaded case weight (maximum configuration)	19.5 kg
Water and dust resistance	IP67
Colour	Orange



# TECHNICAL DATA LEADER Scan

## UWB MOVEMENT DETECTOR

### COMPOSITION OF EACH PRODUCT

CONTENTS OF CASE	1 control box + 1 UWB sensor
	Ref D11.07.018
Control box	1
Antenna for control box	1
Battery for control box	1
Charger for control box	1
Spare battery pack (without batteries) for control box	1
Sunshade	1
Shoulder strap	1
Hand strap	1
UWB sensors	1
Antenna for UWB sensor	1
5-m USB cable for connecting control box to sensor	1
Battery for UWB sensor	2
Charger for UWB sensor	1
International connection adaptor kits	1
Transport backpack	1
Waterproof and shockproof transport case	1
User manual	1

### CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 24 x W 15.2 x H 5.1 cm
Control box weight without battery	1.1 kg
Control box weight with battery	1.38 kg
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 2 m.
Water and dust resistance	IP54
Autonomy	2.5 hours
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	2 metal ports for connecting UWB sensor and antenna
Operating temperatures	From -10° to +60°C
Storage temperature	From -40° to +70°C
Antenna for UWB sensor connection	Removable and articulated for a range of up to 30m in open field

SCREEN	
Type	TFT LCD
Resolution	7" - 800 x 480 px WVGA
Brightness	1000 candela/m2
Backlighting	LED
Colours	16-bit RGB
Protection	Transparent thermoplastic: 3 mm colourless scratch-resistant PMMA

# UWB SEARCH EQUIPMENT CHARACTERISTICS

UWB SENSOR	
Material	Sensor contained in a waterproof and shockproof orange ABS case
Technology	UWB: Ultra Wide Band
Search distance	Up to 30 m in open air
Accuracy	Approx. 1 m
Type of connection to control unit	- Wi-Fi connection to control unit with more than 30 m range. Eliminates cable management problems - Waterproof USB connection with 5 m of cable: Alternative in case of nearby interference preventing Wi-Fi use
Dimensions with antenna	L 43 x W 24.4 x H 34.1 cm
Weight (including battery)	6.7 kg

## POWER SUPPLY

CONTROL BOX BATTERY	
Dimensions	L 6.5 x W 13 x H 3 cm
Weight	280 g
Type	4 Lithium Ion Polymer cells (Wh)
Capacity	2500 mA.h
Autonomy	2.5 hours
Charging time	3.5 hours
Recharging cycles	500
Charging temperature	0° to +45°C
Water and dust resistance	IP67
Battery compatible and interchangeable	Yes with LEADER Search, LEADER Cam and LEADER Hasty
Charge level indication	Displayed on control box screen

CHARGER + TRANSFORMER FOR CONTROL BOX	
Charger dimensions	H 10.5 x D 4.5 x L 3.5 cm
Charger weight	200 g
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

SPARE BATTERY PACK FOR CONTROL BOX	
Dimensions	L 6.5 x W 13 x H 3 cm
Weight with 10 batteries (not supplied)	300 g
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Autonomy	Approx. 1 h 30 m depending on the standard cell batteries brand

UWB SENSOR BATTERY	
Dimensions	L 8.5 x W 14.2 x H 3.3 cm
Weight	520 g
Type	Li-Ion Endura 7S
Capacity	4.6Ah / 50W
Autonomy	4 hours
Charging time	4 hours
Recharging cycles	500
Charging temperature	0 to 45°C
Charge level indication	Visible on outside of sensor

CHARGER + TRANSFORMER FOR UWB SENSOR	
Charger dimensions	H 8.3 x D 14.2 x L 2.8 cm
Charger weight	360 g
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

## TRANSPORT CASE AND BACKPACK

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalising valve
Dimensions	H 37 x W 51 x L 67 cm
Empty weight	Approx. 13 kg
Loaded case weight	25.95 kg
Water and dust protection	IP65
Number of wheels	2
Colour	Orange

RESPONDER'S BACKPACK	
Material	Polyester 1200
Dimensions	L 57 x W 47 x D 20 cm
Empty weight	2.5 kg
Colour	Red



# TECHNICAL DATA LEADER Cam

SEARCH CAMERA

## AVAILABLE VERSIONS

Contents of case	1 control box +1 pole (2.4m)	1 control box +1 pole (4m)	1 control box +1 articulated camera on 90m reel	1 control box +1 articulated camera on 180m reel	1 control box +1 water-resistant camera on 90m reel
Ref	D11.04.342	D11.04.343	D11.04.344	D11.04.366	D11.04.345
Control box	1	1	1	1	1
Pair of noise-reducing earphones	1	1	1	1	0
Sunshade	1	1	1	1	1
Articulated camera on 2.4 m telescopic pole	1	0	0	0	0
Articulated camera on 4 m telescopic pole	0	1	0	0	0
Articulated camera on 90 m reel	0	0	1	0	0
Articulated camera on 90 m reel + 90 m extension on a second reel	0	0	0	1	0
Non-articulated camera (water-resistant to 90 m) on 90 m reel	0	0	0	0	1
Removable articulated arm (pole/control box mounting)	1	1	1	1	1
Shoulder strap	1	1	1	1	1
Hand strap	1	1	1	1	1
Water-resisting plugs (camera water-resistance accessory)	3	3	3	3	0
Battery	1	1	1	1	1
Charger	1	1	1	1	1
International connection adaptor kits	1	1	1	1	1
Spare battery pack (without batteries)	1	1	1	1	1
Photo/video SD memory card	1	1	1	1	1
Waterproof transport case	1	1	1	2	1
User manual	1	1	1	1	1

## CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 24 x W 15.2 x H 5.1 cm
Control box weight without battery	1.1 kg
Control box weight with battery	1.380 kg
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 2 m.
Control box water and dust resistance	IP54
Autonomy	2 hours 30 min
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	3 metal ports for connecting earphones and camera
Connections water and dust resistance	IP68
Memory card	Slot for micro SD card for recording photos and videos
Software updating	By specific LEADER USB stick
Operating temperatures	From -10° to +60°C
Storage temperature	From -40° to +70°C
Control unit/pole mounting system	Yes, intended position on back of control box for attaching the supplied articulated arm to connect control unit to pole

SCREEN	
Type	TFT LCD
Resolution	7" - 800 x 480 px WVGA
Brightness	1000 candela/m2
Backlighting	LED
Colours	16-bit RGB
Protection	Transparent thermoplastic: 3 mm colourless scratch-resistant PMMA
Digital zoom	x2

# SEARCH CAMERA CHARACTERISTICS

CAMERA HEAD	
Diameter	47 mm for entering standard 51 mm core holes
Camera articulation	170° (85° to right and 85° to left)
Field of view	260° in total
Type of articulation	Rotation by electric motor
Camera articulation control	From control box
Water resistance	Yes, to 2 m when plug fitted to camera unit (waterproof mode)
Lighting type	8 LEDs with 8 levels of illumination.
Microphone/loudspeaker	Integrated into camera head for half-duplex communication with casualty
Response frequency	300 Hz to 3500 Hz

CAMERA	
Type of optics	Lens
Lens	Scratch-proof sapphire
Focal length	F = 3mm fixed
Opening	90°

POLE		
	2.4 m version	4 m version
Material	Carbon fibre	
Dimensions	Retracted: 1.10 m Extended: 2.40 m	Retracted: 1.10 m Extended: 4 m
Weight	1.4 kg	2 kg
Removable pistol grip	Yes	
Pole/control box mounting system	Yes, intended location at the back of the control box to fix an "articulated arm" which will allow to link the control box at the pole.	

NOISE-REDUCING HEADPHONES	
Weight	Approx. 430 g
Mono or Stereo	Stereo
Built-in microphone	Yes, to communicate with casualties in search camera mode
NRR (Noise Reduction Rating) hearing protection	23 dB
Number of simultaneously connectable pairs of earphones	2 pairs simultaneously connectable, one being optional (supplied with a Y connector for connecting 2 pairs of earphones to the same control box)

## POWER SUPPLY

CONTROL BOX BATTERY	
Dimensions	L 6.5 x W 13 x H 3 cm
Weight	280 g
Type	4 Lithium Ion Polymer cells. 37 Wh
Capacity	2500 mA/hour
Autonomy	2 hours 30 min
Charging time	3 hours 30 min
Recharging cycles	500
Charging temperature	0° to +45°C
Water and dust resistance	IP67
Battery compatible and interchangeable	Yes with LEADER Search, LEADER Scan and LEADER Hasty
Charge level indication	Continuously displayed on control box screen

CHARGER + TRANSFORMER	
Charger dimensions	H 10.5 x W 4.5 x L 3.5 cm
Charger weight	200 g
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

SPARE BATTERY PACK	
Dimensions	L 6.5 x W 13 x H 3 cm
Weight with 10 batteries (not supplied)	300 g
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Autonomy	Approx. 1 h 30 m depending on the standard cell batteries brand

## TRANSPORT CASE

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalising valve
Dimensions	H18 x W 43 x L121 cm
Empty weight	7.80 kg
Loaded case weight	14 kg
Water and dust resistance	IP67
Number of wheels	2
Colour	Orange



# TECHNICAL DATA LEADER Hasty

## WIRELESS SEISMIC DETECTOR & SEARCH CAMERA

### AVAILABLE VERSIONS

Contents of case	1 control box + +1 sensor + 1 pole (2.4m)	1 control box + 2 sensors + 1 pole (2.4m)	1 control box + 3 sensors + 1 pole (2.4m)	1 control box + +1 sensor + 1 pole (4m)	1 control box + 2 sensors + 1 pole (4m)	1 control box + 3 sensors + 1 pole (4m)
Ref	D11.04.349	D11.04.351	D11.04.359	D11.04.350	D11.04.352	D11.04.360
Control box	1	1	1	1	1	1
Antenna	1	1	1	1	1	1
Pair of noise-reducing earphones	1	1	1	1	1	1
Sunshade	1	1	1	1	1	1
Camera on 2.4m telescopic pole	1	1	1	-	-	-
Camera on 4m telescopic pole	-	-	-	1	1	1
Removable articulated arm (pole/control box mounting)	1	1	1	1	1	1
Shoulder strap	1	1	1	1	1	1
Hand strap	1	1	1	1	1	1
Water-resisting plugs (camera water-resistance accessory)	3	3	3	3	3	3
Wireless seismic sensors	1	2	3	1	2	3
Spikes for sensors	1	2	3	1	2	3
Magnets for sensors	1	2	3	1	2	3
Battery	1	1	1	1	1	1
Charger	1	1	1	1	1	1
International connection adaptor kits	1	1	1	1	1	1
Spare battery pack (without batteries)	1	1	1	1	1	1
Photo/video SD memory card	1	1	1	1	1	1
Waterproof transport case	1	1	1	1	1	1
User manual	1	1	1	1	1	1

### CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 24 x W 15.2 x H 5.1 cm
Control box weight without battery	1.1 kg
Control box weight with battery	1.38 kg
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 2 m.
Water and dust resistance	IP54
Autonomy	2.5 hours
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	3 metal ports for connecting earphones, camera and antenna
Memory card	Slot for micro SD card for recording photos and videos
Software updating	By specific LEADER USB stick
Operating temperatures	From -10° to +60°C
Storage temperature	From -40° to +70°C
Antenna for interconnection of seismic sensors	Removable and articulated for a range of up to 100m in with seismic sensors in unobstructed space
Control unit/pole mounting system	Yes, intended position on back of control box for attaching the supplied articulated arm to connect control unit to pole

SCREEN	
Type	TFT LCD
Resolution	7" - 800 x 480 px WVGA
Brightness	1000 candela/m2
Backlighting	LED
Colours	16-bit RGB
Protection	Transparent thermoplastic: 3 mm colourless scratch-resistant PMMA
Digital zoom	x2

### TRANSPORT CASE

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalising valve
Dimensions	H18 x D43 x L121 cm
Empty weight	7.80 kg
Loaded case weight	16 kg
Water and dust resistance	IP67
Number of wheels	2
Colour	Orange

## SEARCH CAMERA CHARACTERISTICS

POLE		
	2.4 m version	4 m version
Material	Carbon fibre	
Dimensions	Retracted: 1.10 m Extended: 2.40 m	Retracted: 1.10 m Extended: 4 m
Weight	1.4 kg	2 kg
Detachable grip	Yes	
Pole/control box mounting system	Yes, intended position on top of pole for attaching the supplied articulated arm to connect the control unit and pole together	

CAMERA	
Type of optics	Lens
Lens	Scratch-proof sapphire
Focal length	F = 3mm fixed
Opening	90°

CAMERA UNIT	
Diameter	47 mm for entering standard 51 mm core holes
Camera articulation	170° (85° to right and 85° to left)
Field of view	260° in total
Type of articulation	Rotation by electric motor
Camera articulation control	From control box
Water resistance	Yes, to 2 m when plug fitted to camera unit (Waterproof mode)
Lighting type	8 LEDs with 8 levels of illumination.
Microphone/loudspeaker	Integrated into camera for half-duplex communication with casualty
Response frequency	300 Hz to 3500 Hz

## SEISMIC SEARCH EQUIPMENT CHARACTERISTICS

WIRELESS SEISMIC SENSORS	
Type of connection to control unit	Wireless
Wireless seismic sensors	Up to 3 sensors with 100 m range each in open field
Dimensions with antenna	Height 212 mm x Diameter 90 mm
Weight (with standard cell batteries)	690 g
Sensor/control box communication frequency	2.4 GHz
Water and dust resistance	IP67
Shock resistance	Yes
Audio response frequency	1 Hz to 3000 Hz
Individual control of each sensor from control box	Each sensor can be listened to alone or simultaneously with the second sensor.
Noise-reducing filters adjustable from control box	Low-pass filter: Removes high sounds. Adjustable from 600 to 3000 Hz High-pass filter: Removes deep sounds. Adjustable from 20 to 300 Hz
Mono or Stereo listening mode	For listening to the selected sensors in both ears, right ear only or left ear only
On-screen display trackers	Yellow trackers above each bar graph for clear reading of peaks. Red tracker identifies the highest seismic peak, staying on screen for an additional brief period.

NOISE-REDUCING HEADPHONES	
Weight	Approx. 430 g
Mono or Stereo	Stereo
Built-in microphone	Yes, to communicate with casualties in search camera mode
NRR (Noise Reduction Rating) hearing protection	23 dB
Number of simultaneously connectable pairs of earphones	2 pairs simultaneously connectable, one being optional (supplied with a Y connector for connecting 2 pairs of earphones to the same control box)

## POWER SUPPLY

CONTROL BOX BATTERY	
Dimensions	L 6.5 x H 13 x W 3 cm
Weight	280 g
Type	4 Lithium Ion Polymer cells. 37 Wh
Capacity	2500 mA/hour
Autonomy	2 hours 30 min
Charging time	3 hours 30 min
Recharging cycles	500
Charging temperature	0° to +45°C
Water and dust resistance	IP67
Battery compatible and inter-changeable	Yes with LEADER Search, LEADER Cam and LEADER Scan
Charge level indication	Displayed on control box screen

CHARGER + TRANSFORMER	
Charger dimensions	H 10.5 x W 4.5 x L3.5 cm
Charger weight	200 g
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

SPARE BATTERY PACK	
Dimensions	L 6.5 x H 13 x W 3 cm
Weight with 10 batteries (not supplied)	300 g
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Autonomy	Approx. 1 h 30 m depending on standard cell batteries brand



# WARRANTY

LEADER guarantees its products from the date of acceptance by the customer.

The respective warranty periods are as follows :

- ▶ LEADER Search : 2 years
- ▶ LEADER Cam : 2 years
- ▶ LEADER Hasty : 2 years
- ▶ LEADER Scan : 2 years
- ▶ LEADER Sentry : 2 years
- ▶ LEADER Sar : 1 year
- ▶ LEADER Volt : 1 year
- ▶ Battery : 6 months or 500 cycles
- ▶ Charger : 1 year

This warranty does not apply where it has been found by our services that the equipment was damaged by :

- ▶ Normal wear due to operation
- ▶ Improper use of the equipment
- ▶ Accidents arising from carelessness
- ▶ Defective maintenance
- ▶ Failure to follow the standards and instructions of the manufacturers
- ▶ Improper storage

Consumables, such as the screen protection window, cases, feet, cables, paint and labels, transport bag, etc. are excluded from the warranty if the defects are discovered after using the product.





**ALWAYS IN TOUCH** WITH OUR CLIENTS  
TO DESIGN THE PRODUCTS YOU WILL  
NEED **IN THE FUTURE**



**Foam concentrates & Foam Equipment**



**Mobile ventilation**



**Search and rescue equipment**



**Fire training equipment**

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